

**The impact of adapting Total Quality
Management Approach on Team Building
"An Applied Study on Private Universities in Egypt"**

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Abstract

The research discuss the team building concept and its relationship with total quality management approach through illustrating the Problems facing managers to apply TQM in team building process and its solutions. Team building is a critical management function and its part of leadership function, the research discuss the relationship between the total quality of management and team building process in private universities in Egypt, In this study the researcher has followed the descriptive approach and measure the quality of good team building inside the educational organizations in private universities in Egypt which implement total quality management, and this was done through collecting a sample of 12 teams was asked and using a correlation and regression analysis in the SPSS to test the relationship between quality of teams inside different universities through proofing the following hypothesis: "There is a positive relationship between Total Quality Management and Team Building in Universities. By Calculating Pearson correlation coefficients and Developing a simple regression model between the dependent variable (Team Building) and the independent variable (Total Quality Management) in the four universities. The hypothesis of the research proved that there is a positive relationship between the total quality management and team building in private universities

المخلص

يناقش هذا البحث مفهوم بناء الفريق وعلاقته بمنهج إدارة الجودة الشاملة من خلال توضيح المشاكل التي تواجه المديرين لتطبيق إدارة الجودة الشاملة وحلولها في عملية بناء الفريق داخل مؤسسات التعليم داخل مصر. إن بناء الفريق هو وظيفة إدارية حرجة وجزء من الوظيفة القيادية، ويناقش هذا البحث العلاقة بين جودة الإدارة الشاملة وعملية بناء الفريق في الجامعات الخاصة في مصر، وفي هذه الدراسة اتبع الباحث المنهج الوصفي وبناء فريق داخل المؤسسات التعليمية في الجامعات الخاصة في مصر التي تطبق إدارة الجودة الشاملة.

وتم ذلك من خلال جمع عينة من ١٢ فريق وتم استخدام تحليل الارتباط والانحدار في عينة الاختبار ولاختبار العلاقة بين جودة الفرق داخل الجامعات المختلفة من خلال مما يثبت الفرضية التالية: "هناك علاقة إيجابية بين إدارة الجودة الشاملة التي تؤثر على بناء الفريق في الجامعات. من خلال حساب معاملات ارتباط "بيرسون" وتطوير نموذج انحدار بسيط بين المتغير التابع (بناء الفريق) والمتغير المستقل (إدارة الجودة الشاملة) في الجامعات الأربع. وقد أثبتت فرضية البحث وجود علاقة إيجابية بين جودة الإدارة الشاملة وبناء الفرق في الجامعات الخاصة.

Introduction

The simplest definition of quality is meeting the customer requirements and aiming at increasing their satisfaction. According to ISO, quality is “the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.” The emphasis of this definition is the satisfaction of needs. In other words, a product or service can be said to be of quality if it meets the requirements of the target client. Quality management is the totality of management of all activities aimed at producing quality within an organization. Thus, if the aim is to improve the quality of product or service then the emphasis of quality management is the use of customer feedback. In addition to the consumer focus, the concept of quality management stresses the need for team building, self-worth of employees, and partnerships between organizations. According to Martin (1993), quality management also stresses protection over remediation. In other words, it is cheaper for organizations to build quality products or service in the long run than use additional resources to rework or to handle customer dissatisfaction.

Most of the work in quality management was done by the Japanese who were the first the idea. However, the Americans have a fair share of the contribution to the notion through the works of Armand Feigen Baum, Edwards Deming, Juran, and Phil Crosby just to mention but a few. However, the American approach to quality management is slightly different from the Japanese system. The term total quality management (TQM) was coined differentiate the quality management systems as used in America and Japan as well as to integrate the theories of American management experts (Martin, 1993). According to Mossard (1991), TQM is “the application of quantitative methods and human resources to improve the material and services of supplied to an organization, all the processes within an organization, and the degree to which the needs of the customer are met, now and in the future” (p233). In this definition, fundamental management techniques, current improvement efforts, and technical tools geared toward continuous improvement are integrated.

1. Team building concept and definition

Team building refers to the process of putting together a team by selecting members either from the public or from an already defined group. The concept can also refer to the activities that seek to strengthen the relationships within a team. The overarching aim of team building exercise

is to increase the cohesiveness, efficiency, and productivity of the team members (McShane & Travaglione, 2003). Organizations rely on team building for success and the onus is on them to create high-performance teams through engagement of the members in the team building process to increase teamwork.

Teamwork is largely due to the teams working together effectively. For teamwork to be realized in an organization, a wide continuum of factors such as good communication skills, complementary skills, mutual respect, team leadership, and clear decision-making procedures must be present for success to occur. In other words, teams are like machines consisting of various well-coordinated parts. Each member knows what he or she is supposed to do and his or her contributions are part of the larger picture of the team's productivity. There is no standard definition of the term team building, as many scholars' definitions are dissimilar although they encompass the above concepts. For example, Woodman and Sherwood (1980) describe team building as planned interventions focusing on problem-solving and effectiveness while Mazany and colleagues (1995) define team building simply as an investment in the organization's human resource.

2. The relationship between TQM and team building from managerial perspective

The role of managers in organizations is to increase organizational performance generally. Therefore, the imperative of the managers is to find solutions that can bring about more successful and efficient organizational performance. Consequently, many competitive organizations have implemented TQM to improve their performance continuously (Gharakhani, Rahmati, Farrokhi, & Farahmandian, 2013). The concept of TQM gravitates more towards human services rather than organizational efficiency. Organizational development entails the process of enhancing the business practices, efficiency, and effectiveness, leading to a more competitive organization and individual performance (Anderson, 1991). It involves the planned efforts by the management to create competitiveness in their organizations with a human resource that can work together towards collective problem solving and innovation for future growth. To this end, the management can use different organizational development initiatives based on their specific needs to strengthen their firms. Needs are not uniform across organizations with some only needing partial improvement

in some areas while other organizations have more needs. Therefore, organizations are most likely to select solutions based on their present needs, but with an eye on the development of quality across the organization in order to achieve present and future goals. Managers can choose from among many interventions available for improvement (Senge et al., 1999). For the purposes of this paper, however, the relationship between Total Quality Management and team building are is determined.

The role of team building as an intervention that can help organizations to bring together people from diverse backgrounds, disciplines, values, cultures, attitudes, and education levels has been widely appreciated in literature (Gratton & Erickson, 2007; Harrison & Klein, 2007). As stated earlier, the concept of team building is essential when recruiting new members to the team, solving potential conflicts among members, strengthen the human resource services to accelerate the achievement of the organizational vision and goals, and achievement or enhancement of specific projects (Van Aken, 2007). The hallmark of team building process is to identify and develop teams that can work together, help them to find common values, vision, and roles just to mention but a few. However, the overarching aim of team building is to improve the cohesiveness and effectiveness of teams (Borkowski, 2011). (Oakland, 2015) states that there is a myth that the use of TQM is applicable only in Business and Industry where the production process are being made but the new concept of TQM is also applicable to Academics

Besides team building, organizations are increasingly using TQM concepts to bring about continuous internal improvements in order to create competitive advantage. TQM allows managers to develop new techniques that help them to look at the improvement processes from a proactive approach i.e. continuous improvement (Inc, 2014). Therefore, what total quality management does is to help firms to think about continuous improvement continuously in all areas of the organization. TQM essentially help managers to develop the techniques for teams, strengthening the groups by giving them problem-solving tools. As it can be seen, although TQM is a managerial intervention to bring about organizational improvement, it achieves this objective by influencing team building from a human resource point of view. TQM provides problem-solving tools such as the art of brainstorming, flowcharts, and benchmarking among others to teams. It is apparent that data plays a key role in the problem-solving process because data provides the basis for the practice. Thus, team members learn about the

data review basics through various tools such as diagrams as well as the techniques that will enhance the effectiveness of groups. Managers use total quality management aspects to direct the focus of teams on specific processes at a given time. This way, TQM introduces the aspect of efficiency to teams to deal with issues conclusively before moving to other issues. According to Borkowski (2011), TQM can be used to recognize and develop new improvement opportunities for the firms, enhance the creativity or innovativeness of team members, reverse negative trends that may occur in the company, and drive change. Borkowski further avers that total quality management builds on the dynamics of the human resource and provides an opportunity for participation of all workers to strengthen the ability of teams to solve problems for process improvement.

A particular strength of total quality management is its ability to help managers to develop a vision for their organizations. TQM help organizations to acquire competent employees for continuous improvement by providing teams with specific tools and processes to enhance their ability to solve problems. When people acquire skills to identify trends, they acquire the ability for opportunity recognition. Not only does total quality management principles help teams to solve problems at the workplace but also lend a helping hand in recognizing new opportunities that can give an organization a competitive advantage; hence, continuous improvement. Moreover, TQM provides a significant role in helping employees to get involved in the organization's quest for continuous improvement. According to Van Aken (2007), although team building strengthens teams, the problem - solving tools provided by TQM empowers the teams to become stronger and more productive and ready to tackle any challenges. The TQM and team building concepts are intertwined generally. Managers use both concepts to bring together competent human resources that can provide the best services to their organizations from diverse cultural backgrounds, values, educational status, and disciplines and empower them to bring success collectively (Zbaracki, 1998). The caveat of these improvement processes is that it is time-consuming (Adair, 2009). Furthermore, the concept of total quality management is that an organization should improve continuously which can be mentally exhausting (Borkowski, 2011).

3. Problems facing managers to apply TQM in team building process

One problem facing managers in applying total quality management in team building process is lack of diversity among the group members. It is feared

that having people with similar skills in a team may lead to the impediment of achieving the preferred goals (Jayne & Dipboye, 2004). A project may stall if the correct mix of skills is missing. The second problem is the presence of poor communication within the team. Proper communication is essential at all phases of team building or project implementation (Antai-Otong, 1997). If the team leader does not communicate to the members, information flow suffers. If the team members consider their roles independent, communication is also likely to suffer. Team leadership plays an important role in offering direction and a sense of purpose of a project or team. Therefore, team development can suffer a heavy blow if the team lacks effective leadership. The onus is on managers to ensure team leadership is present at all times to ensure that the teams function efficiently. Without good leadership, accountability from members becomes a challenge (Dyer, 2007). In addition, the team members may lose morale and momentum in whatever they are supposed to do. Therefore, leadership is an important factor in encouraging the implementation of TRM in an organization (Dyer, 2007).

Role confusion is a serious threat to teamwork in any organization. The aim of team building is to enhance people's ability to work together towards a common good. However, each team member needs to know his or her specific roles within the group. The team will not have coherence and proper functioning if one or some members of the group lack knowledge of the specific roles within the team (Klein et al., 2007). Consequently, the team may not achieve the desired results, which in turn reflects badly on overall organizational performance. Another problem that begets managers in the implementation of total quality management is the presence of conflicts among team members. Conflicts at the workplace are common and they threaten the unity of groups to function together as a unit (Rahim & Bonoma, 1979). Under such circumstances, it becomes difficult to implement TQM in an organization. Finally, the general workplace environment is a major influence of TQM implementation. A conducive workplace environment motivates workers to be more committed to the organization. This commitment can be transferred to their respective teams in order to achieve specific organizational goals (Buljac-Samardzic, van Doorn, van Wijngaarden, & van Wijk, 2010). A poor occupational environment, however, threatens this commitment that may also affect the implementation of TQM.

4. Solutions for solving these problems

To address issues of lack of diversity in terms, managers need to commit themselves to monitoring and evaluation of the teams' performances and providing the required support (Dyer, 2007). The use of team leaders is crucial for successful team building (Dyer, 2007). However, the team leader needs to be given roles that would not competition from the members of the group. To avoid confusion among the team members, it is important that the managers provide clear roles to each member of the team. Team members need well-defined roles to avoid confusion in the workplace (Klein et al., 2007). Furthermore, monitoring and evaluation are necessary to avoid teams from slipping into a state of confusion. Communication is the ingredient that holds team members together. It is of paramount importance that meetings are held regularly to discuss issues surrounding the projects (Rahim&Bonoma, 1979). In addition, it is prudent for managers to ask teams to share their experiences to assess their level of communication. Finally, it is important for managers to provide the necessary work environment to achieve the individual and organizational goals. Employees can only execute their mandate when they are provided with a conducive environment to work. A good work environment can motivate the workers to increase their effort and commitment to their job. TQM provides the tools and processes that can help managers to solve most of these problems (Buljac-Samardzic, van Doorn, van Wijngaarden, & van Wijk, 2010).

5. Pilot Study

In this study the case selection is focused on the relationship between Total Quality Management that affects Team Building in four Universities, and make comparative study between them, so researcher has a field visit to these Universities and distribute form of the suggested survey on a random sample of (50) employees, then researcher collect the returned and corrected forms (45) with percentage (90%) of the sample size, and the aim was to study and define variables of the study, select appropriate methodology, make a design to the survey form, and formulate study hypotheses.

6. Research Methodology

In this study the researcher has followed the descriptive approach and measure the quality of good team building inside the educational organizations in private universities in Egypt which implement TQM, and this was done through collecting a sample of 12 teams was asked and using

a correlation and regression analysis in the SPSS to test the relationship between quality of teams inside different universities through proofing the following hypothesis: **"There is a positive relationship between Total Quality Management and Team Building in Universities"**

7. Data Collection Method

In this study the researcher uses survey as the main method to collect data. A ready-made questionnaire is used in to measure the quality of good team building inside the educational organizations in private universities in Egypt; the questionnaire scale reliability for the overall 28 item scale had a Cronbach alpha of (0.94). And validation study had a Cronbach alpha of 0.84, the questionnaire composed of three main parts as follow: Part I: Personal Information: contains four questions for the demographic variables for employees (Departments, Gender, Age, and Degree). Part II: Employee's perceived Total Quality Management: contains (14) questions. Part III: Employee's perceived team building: contains (14) questions. All the items in questionnaire were measured by using a five-point Likert-type response scales, anchored at 5 strongly agree and 1 strongly disagrees. And questionnaires are administrated in different ways: face to face, telephone, postal, e-mail and Web.

7.1 Reliability

In this study, internal reliability will be considered. In statistics, Cronbach's α (alpha) is a coefficient of internal consistency. The researcher measure internal reliability of each construct with its different number of statements from the data collected from Pilot Study through Cronbach's alpha which calculated for each construct according to equation.

$$\alpha = \frac{k}{k-1} \left[1 - \frac{\sum S_i^2}{S_t^2} \right]$$

Where:

- K is the number of Constructs.
- S_i^2 is variance responses to each Constructs of the test
- S_t^2 is variance of the total answers of Constructs of the test.

Table (1) shows that the two constructs for the Questionnaire have Cronbach's alphas which ranges between (0.892, 0.909) which are larger than 0.6 (level considered "acceptable" in most social science research).

Table (1) Cronbach’s alpha for constructs of the questionnaire

Study Variables	No. of Items	Cronbach’s Alpha
Total Quality Management	14	0.892
Team Building in Organizations	14	0.909
Total	28	0.943

7.2 Case Selection and Sampling

The size of the study sample is determined firstly without taking into account the research community on the four private universities (Som, 1996) using the following equation:

$$n = \frac{t^2 p(1 - p)}{d^2}$$

Where

- n is the sample size required.
- t is the number of standard units, ± 1.96 for the 95% confidence level.
- p is the proportion of vocabulary that having the characteristics in question which is 50%.
- d is the limit of error of 5% to 95% confidence level.

Substitute in the previous equation, sample size required (n) before amendment is:

$$n = \frac{(1.96)^2 \times 0.5 \times (0.5)}{(0.05)^2} = \frac{3.8416 \times 0.25}{0.0025} = \frac{0.9604}{0.0025} \cong 385$$

The researcher finds the required sample size (n) equal 385, then the researcher determines the size of the sample taking into consideration the size of the community using following equation (Som, 1996):

$$n1 = \frac{n}{1 + n/N}$$

- n1 sample size modified with size of research community.
- n sample size without taking into account research community.
- N size of research population which equal (163) members.

Substitute in the previous equation the sample size required (n1) after amendment is:

$$n1 = \frac{385}{1 + 385/163} = 114.52 \cong 115$$

The sample size was chosen to be (115) from research community; and researcher suggest to distribute (125) to employees of the universities to ask for their help to fill the questionnaire questions. (120) employees answered the questionnaire and (115) feedbacks are complete, i.e. no missing data in the questionnaire as shown in Table (2) and Figure (1).

Table (2) Population and Sample distribution in four private universities

Universities	Population		Sample		
	Frequency	Percentage	Distributed	Returned & c0rrect	
			Frequency	Frequency	Percentage
University (1)	31	19.0%	24	22	19.1%
University (2)	35	21.5%	27	25	21.7%
University (3)	44	27.0%	34	31	27.0%
University (4)	53	32.5%	40	37	32.2%
Total	163	100%	125	115	100%

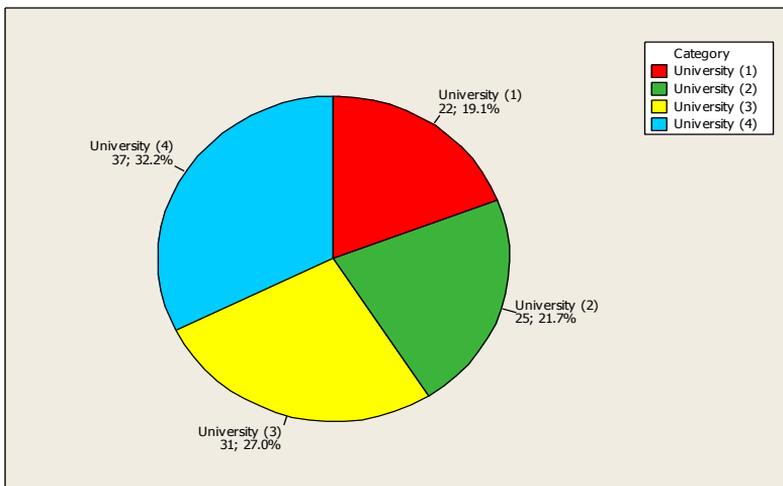


Figure (1) Population and Sample distribution in four private universities

7.1.3 Descriptive Analysis of Employee's Demographic Variables

The analysis includes the demographic variables for employees of the two organizations for petroleum industry in Egypt for the variables Committees, Gender, Age, and Degree

Descriptive Analysis of Employee's Committees

Table (3) shows the distribution of employees on the proposed sample according to the variable Committees, the percentage of respondents in (Registration) equal (8.6%), and the percentage of respondents in (Control) equal (15.7%), and the percentage of respondents in (Scheduling) equal (35.7%), and the percentage of respondents in (Academic Advising) equal (40%) as shown in Figure (2).

Table (3) Distribution of Employees According to Committees

Committees	Frequency	Percentage%
Registration	10	8.6%
Control	18	15.7%
Scheduling	41	35.7%
Academic Advising	46	40.0%
All	115	100%

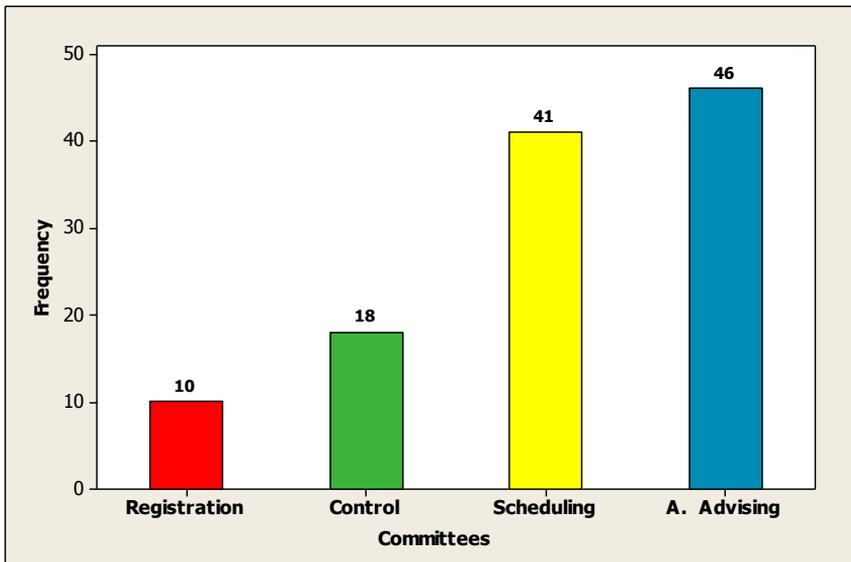


Figure (2) Distribution of Employees According to Degree

Descriptive Analysis of Employee's Gender

Table (4) shows the distribution of employees on the proposed sample according to the variable gender. The percentage of males is (55.7%), and for females is (44.3%) as shown in Figure (3)..

Table (4) Distribution of Employees According to Gender

Gender	Frequency	Percentage%
Male	64	55.7%
Female	51	44.3%
All	115	100%

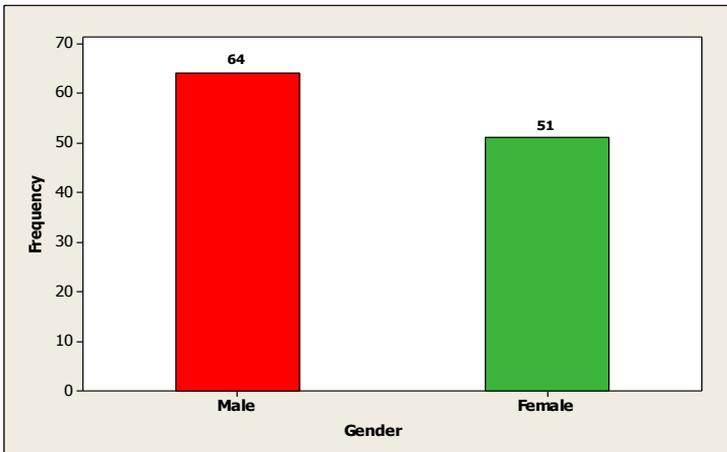


Figure (3) Distribution of Employees According to Gender

Descriptive Analysis of Employee's Age

Table (5) shows the distribution of employees on the proposed sample according to the variable age. the percentage of respondents (Below 30) years (30.4%), and the percentage of respondents (30-50 years) is (38.3%), while the percentage of respondents (Above 50 years) is (31.3%) as shown Figure (4).

Table (5) Distribution of Employees According to Age

Age	Frequency	Percentage%
Below 30 years	35	30.4%
30-50 years	44	38.3%
Above 50 years	36	31.3%
All	115	100%

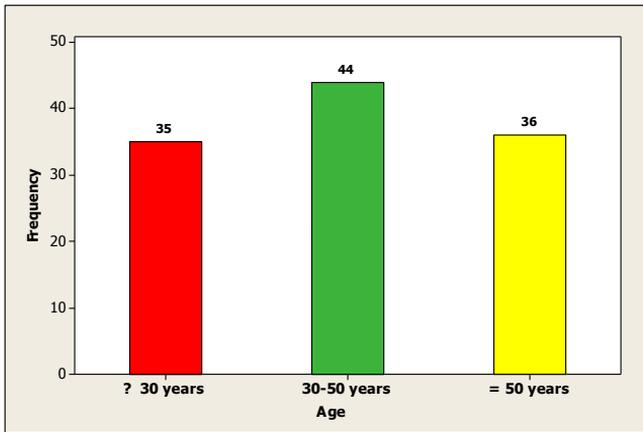


Figure (4) Distribution of Employees According to Age

Descriptive Analysis of Employee's Degree

Table (6) shows the distribution of employees on the proposed sample according to the variable degree. the percentage of respondents with degree (Teaching Assistant) equal (30.4%), and the percentage of respondents with degree (Doctor) equal (32.2%), and the percentage of respondents with degree (Assistant Professor) equal (25.2%), and the percentage of respondents with degree (Professor) equal (12.2%) as shown Figure (5).

Table (6) Distribution of Employees According to Degree

Age	Frequency	Percentage%
Teaching Assistant	35	30.4%
Assistant professors	37	32.2%
Associate Professor	29	25.2%
Professor	14	12.2%
All	115	100%

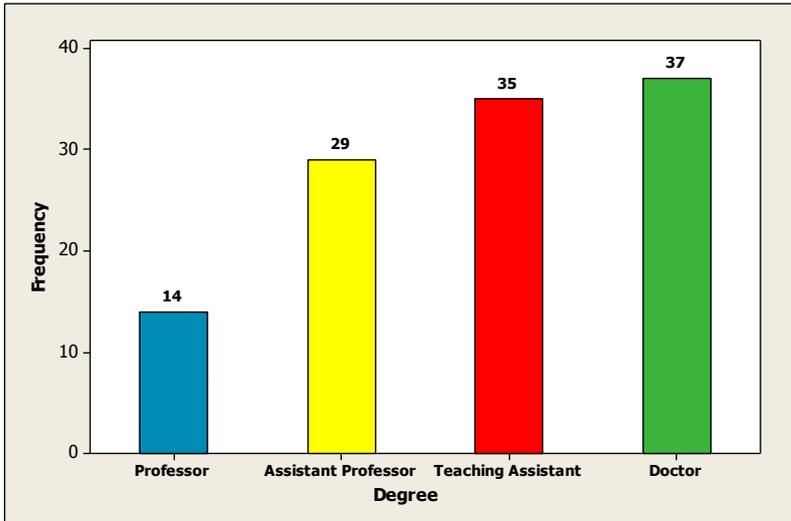


Figure (5) Distribution of Employees According to Degree

Evaluations of Employees Perceived Variables of the study

To evaluate employees perceived variables of the study represented by the independent variable (Total Quality Management), and the dependent variable (team building) and the relationship between them in four private universities, the researcher calculates the mean and the standard deviation for employee's perceptions for the two variables in the four universities.

Table (7) shows the answers of employee's perceived values for the independent variable (Total Quality Management), and the dependent variable (team building) in the four universities., and it is clear that for the independent variable (Total Quality Management) University (1) has highest mean that equal (3.494), against standard deviation equal (0.728) followed by University (2) which has mean equal (3.318), against standard deviation equal (0.836) followed by University (4) which has mean equal (3.216), against standard deviation equal (0.737) and finally University (3) which has lowest mean that equal (3.145), against standard deviation equal (0.624). But for the dependent variable (team building) University (1) has highest mean that equal (3.318), against standard deviation equal (0.848) followed by University (4) which has mean equal (3.158), against standard deviation equal (0.785) followed by University (2) which has mean equal (3.046), against standard deviation equal (0.949) and finally University (3) which has lowest mean that equal (2.940), against standard deviation equal (0.650)

Table (7) Employee's perceived values for variables of the study

Variables	University (1)		University (2)		University (3)		University (4)	
	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev
TQM	3.494	0.728	3.318	0.836	3.145	0.624	3.216	0.737
Team Building	3.318	0.848	3.046	0.949	2.940	0.650	3.158	0.785

8.1.4 Relationship between TQM and Team Building in Universities

To prove the relationship between the independent variable (Total Quality Management), and the dependent variable (team building) the researcher formulates the following main hypothesis:

There is a positive relationship between Total Quality Management and Team Building in Universities

To prove this hypothesis the researcher fulfills the following two steps:

- The first step was to calculate person correlation coefficient between the two variables in the four universities.
- The second step was to develop a simple regression model between dependent variable (team building) and the independent variable (Total Quality Management in the four universities).

The following items discuss the previous two steps in detail:

8. 1.5 Pearson Correlation Coefficients between TQM and Team Building

The first step proved this hypothesis through calculating Pearson correlation coefficients between the independent variable (Total Quality Management) and the dependent variable (Team building) and Table (8) shows Pearson coefficient between them equal (0.810) at level of significance equal (0.01), it is positive and high which gives an indication that as employee's perceived Total Quality Management increases employee's perception for team building also increases.

Table (8) Pearson correlation coefficient between TQM and Team Building in four Universities

		Total Quality Management	Team Building
Total Quality Management	Pearson Correlation	1	.810**
	Sig. (2-tailed)		.000
	N	115	115
Team Building	Pearson Correlation	.810**	1
	Sig. (2-tailed)	.000	
	N	115	115

** . Correlation is significant at the 0.01 level (2-tailed).

8.1.6 Simple Regression Model between TQM and Team Building

The second step proved this hypothesis through developing a simple regression model between the dependent variable (Team Building) and the independent variable (Total Quality Management) in the four universities and Tables (5, 6, & 6) shows the following results: The results in Table (9) shows that (T calculated = 14.667) which is greater than (T tabulated = 1.981) and this means applying Total Quality Management in the four universities has a significant positive relationship with team building, and this relationship does not exist by accident. Also the results in Table (10) shows that Pearson correlation coefficient equal (0.810) at level of significance equal (0.01), and coefficient of determination ($R^2 = 0.656$) and this means (65.6%) of the variations on the dependent variable (Team Building) are due to the variations of applying Total Quality Management in the four universities, Also the analysis of variance (ANOVA) in Table (11) shows that (F calculated = 215.133) which is greater than (F tabulated = 3.925), and this means the linear model between Total Quality Management and team building is significance at level equal (0.05), and this proof the main hypothesis which states: "There is a positive relationship between Total Quality Management and Team Building in Universities".

Table (9) Coefficients ^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.220	.202		1.093	.277
	Total Quality Management	.890	.061	.810	14.667	.000

a. Dependent Variable: Team Building

Table (10) Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.810 ^a	.656	.653	.47372

a. Predictors: (Constant), Total Quality Management

Table (11) ANOVA ^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.278	1	48.278	215.133	.000 ^b
	Residual	25.358	113	.224		
	Total	73.636	114			

a. Dependent Variable: Team Building
b. Predictors: (Constant), Total Quality Management

8. Conclusion

Researcher proved that there is a positive relationship between Total Quality Management and Team Building in Universities by conducting the following analysis:

1. Calculating Pearson correlation coefficients between the independent variable (Total Quality Management) and the dependent variable (Team building). The results show that Pearson coefficient between them equal (0.810) at level of significance equal (0.01), it is positive and high which gives an indication that as employee's perceived Total Quality Management increases employee's perception for team building also increases.

2. Developing a simple regression model between the dependent variable (Team Building) and the independent variable (Total Quality Management) in the four universities .The results show that (T calculated = 14.667) which is greater than (T tabulated = 1.981) and this means applying Total Quality Management in the four universities has a significant positive relationship with team building, and this relationship does not exist by accident
3. Calculating Pearson correlation coefficient equal (0.810) at level of significance equal (0.01), and coefficient of determination ($R^2 = 0.656$) and this means (65.6%) of the variations on the dependent variable (Team Building) are due to the variations of applying Total Quality Management in the four universities,
4. Calculating variance (ANOVA) .The results show that (F calculated = 215.133) which is greater than (F tabulated = 3.925), and this means the linear model between Total Quality Management and team building is significance at level equal (0.05), and this proof the main hypothesis which states: **"There is a positive relationship between Total Quality Management and Team Building in Universities"**.

9. Recommendation

- TQM and team building are two interventions that managers are frequently use to increase the internal competitiveness of their organizations. Organizations enhance the usage of team building efforts to increase the efficiency and effectiveness of their human resource services. Managers are increasingly using TQM concepts to continuously improve the management of teams. Their role is to enhance the business practices, efficiency, and effectiveness, leading to a more competitive organization. This requires the managers to plan their efforts well to increase the quality of the internal human resource processes for collective problem solving and innovation.
- The emphasis of managers on team building is to bring together people from diverse backgrounds, disciplines, values, cultures, attitudes, and education levels to work collectively for the organizations. Team building is an elaborate process that covers recruitment and selection of new employees to strengthen the existing ones to achieve greater organizational goals or successful projects. TQM concepts bring about continuous improvements to

teams and allow managers to develop new techniques that help them to look at the improvement processes from a proactive approach. It essentially helps managers to strengthen groups by giving them problem-solving tools.

- TQM is useful in helping teams to identify and develop new opportunities for the organizations as well as enhancement of innovation. Fidelity to internal improvement also helps organizations to develop a vision for all. This enables the team members to understand the vision and refocus their effort to achieving the organizational goals. Consequently, it brings the best out of the members with nearly acquired skills for opportunity recognition and problem-solving. The new empowerment creates the necessary environment for the organization to thrive. However, managers should also be cognizant of the inherent problems of implementation of TQM. TQM brings many benefits to team building in organizations. It increases both individual and organizational performance leading to competitive advantages. TQM also enhances the innovation abilities of teams. Therefore, managers need to implement total quality management in team building for their organizations to maximize these benefits.

10.Future study

There should be future study on the impact of TQM on team building in other fields such as petroleum or telecommunication fields because applying TQM concept is very important in developing new opportunities for these kinds of organization.

Also for future study the techniques used for applying TQM in team building process and how these techniques affect the cohesiveness between employees inside work and bring people together for diverse cultures and values and education levels inside any organization

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Appendix A

Ladies/Gentlemen....Distinguished

I am about to conduct a study entitled:

**The relationship between Total Quality Management
and team building in Organizations**

Dear sirs

I would appreciate so much your cooperation to fill the attached form regarding collecting some scientific information about the organizational culture and its impact on employees' Job Satisfaction.

My best regards and wishes

First Part:

The following set of Demographic Personal Information Characteristics for Employees of universities please check the suitable (✓) block to express your personal data:

	Registration	Control	Scheduling	Academic Advising
Committees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Male	Female		
Gender	<input type="checkbox"/>	<input type="checkbox"/>		
	Below 30	30-50	Above 50	
Age	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Professor	Assistant Professor	Doctor	Teaching Assistant
Degree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Second Part:

The following set of Statements associated with Employee's perceived Total Quality Management in universities, please readings well, and tick (✓), and the block expresses your point of view

Ser.	Statements of Employee's perceived Total Quality Management	5	4	3	2	1
1	The leadership in this team is available for consultation on problems					
2	Leadership in this team creates an environment where things can be accomplished.					
3	People in this team have the information that they need to do their jobs well.					
4	When people in this team experience a problem, they make a serious effort to figure out what's really going on.					
5	Most of the people who work in this team seem to enjoy their work.					
6	Working in this team is stressful.					
7	Work expectations are clear.					
8	People have what they need to do their work well.					
9	People receive frequent and helpful feedback about their work.					
10	People in this team are connected with community organizations that serve customer.					
11	People in this team are comfortable caring for students from culturally diverse backgrounds.					
12	People in this team believe this team provides culturally sensitive care.					
13	Everyone in this team has access to the information they need for student care and their work when they need it.					
14	This team has a clear, expressible vision.					

Third Part:

The following set of Statements associated with Employee's perceived team building, please readings well, and tick (✓), and the block expresses your point of view

Ser.	Statements of team building	5	4	3	2	1
1	People in this team actively seek new ways to improve how they do things.					
2	People at all levels of this team openly talk about what is and isn't working.					
3	Opinions are valued by others in this team.					
4	This team encourages everyone to share ideas.					
5	People in this team can rely on others to do their jobs well.					
6	People in this team regularly take time to reflect on how they do things.					
7	After trying something new, people in this team take time to think about how it worked.					
8	This team learns from its mistakes					
9	This team tends to be flexible.					
10	People in this team openly discuss errors that happen in the team.					
11	This team gives the attention that students feel they need for education.					
12	There is frequent and good communication throughout the team about how the different change initiatives are going.					
13	Everyone in the team feels able to act on the team vision.					
14	Once this team implements a change, the change tends to stick.					